# This Page Is Inserted by IFW Operations and is not a part of the Official Record

## **BEST AVAILABLE IMAGES**

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

## IMAGES ARE BEST AVAILABLE COPY.

As rescanning documents *will not* correct images, Please do not report the images to the Image Problem Mailbox.



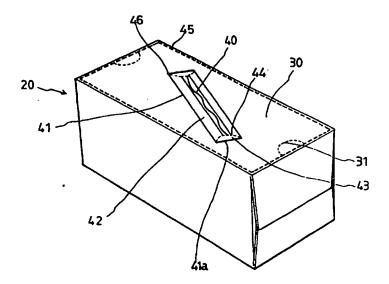
# WORLD INTELLECTUAL PROPERTY ORGANIZATION International Bureau



# INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 6:		(11) International Publication Number: WO 97/39964			
B65D 83/08		(43) International Publication Date: 30 October 1997 (30.			
(21) International Application Number: PCT/KR (22) International Filing Date: 27 August 1996 (		(AT, BE, CH, DE, DK, ES, FI, FR, GB, GK, IE, II, LO			
(30) Priority Data: 1996/12468 24 April 1996 (24.04.96)	k	Published  With international search report.			
(71)(72) Applicant and Inventor: SHIN, Suk, Kyun 107-80, Hyunjuh-dong, Suhdaemoon-ku, Seoul (KR).	(KR/KF 120-0	R); RO			

#### (54) Title: TISSUE BOX WITHOUT TRANSPARENT FILM



#### (57) Abstract

A tissue box without transparent film from which about half portion of a following tissue followed by a leading tissue can be drawn when the leading tissue is drawn out. The tissue box (20) without transparent film is characterized by comprising an outlet (40) having the form of a straight line or a wave-shaped line being cut along a long axis direction or a short axis direction on a top sheet (30) of the tissue box (20) with a certain length, at least more than two depressed engraving lines (41, 41a) being spaced on both left and right side of the outlet (40) respectively, with a certain distance about the outlet, a tearing portion (43) for allowing the outlet (40) to be opened such that an uppermost tissue may be drawn out form the tissue box, and an erecting support portion (42) for allowing a following tissue followed by a leading tissue to stand erect.

#### FOR THE PURPOSES OF INFORMATION ONLY

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

AL	Albania	ES	Spain	LS	Lesotho	SI	Slovenia
AM	Armenia	FI	Finland	LT	Lithuania	SK	Slovakia
AT	Austria	FR	France	LU	Luxembourg	SN	Senegal
ΑU	Australia	GA	Gabon	LV	Latvin	\$Z	Swaziland
AZ	Azerbaijan	GB	United Kingdom	MC	Monaco	TD	Chad
BA	Bosnia and Herzegovina	GE	Georgia	MD	Republic of Moldova	TG	Togo
BB	Barbados	GH	Ghana	MG	Madagascar	TJ	Tajikistan
BE	Belgium	GN	Guinea	MK	The former Yugoslav	TM	Turkmenistan
BF	Burkina Faso	GR	Greece		Republic of Macedonia	TR	Turkey
BG	Bulgaria	HU	Hungary	ML	Mali	TT	Trinidad and Tobago
BJ	Benin	IE	Ireland	MN	Mongolia	UA	Ukraine
BR	Brazil	IL.	[srae]	MR	Mauritania	UG	Uganda
BY	Belarus	IS	Iceland	MW	Malawi	US	United States of America
CA	Canada	IT	haly	MX	Mexico	UZ	Uzbekistan
CF	Central African Republic	JP	Japan	NB	Niger	VN	Viet Nam
CG	Congo	KE	Kenya	NL	Netherlands	YU	Yugoslavia
CH	Switzerland	KG	Kyrgyzstan	NO	Norway	zw	Zimbabwe
CT	Côte d'Ivoire	KP	Democratic People's	NZ	New Zealand		
CM	Cameroon		Republic of Korea	PL.	Poland		
CN	China	KR	Republic of Korea	PT	Portugal		
CU	Cuba	KZ	Kazakstan	RO	Romania		
CZ	Czech Republic	ıc	Saint Lucia	RU	Russian Federation		
DE	Germany	LI	Liechtenstein	SID	Sudan		
DK	Denmark	LK	Sri Lanka	SE	Sweden		
EE	Estonia	LR	Liberia	SG	Singapore		
					<u> </u>		

## TISSUE BOX WITHOUT TRANSPARENT FILM

#### FIELD OF THE INVENTION

5

10

15

20

25

30

The present invention relates to a tissue box without transparent film. from which about half portion of a following tissue followed by a leading tissue can be drawn when the leading tissue is drawn out. more specifically relates to a tissue box without transparent film, in which an improved outlet prevents the damage of the tissue when the tissue is drawn out and allows the easy draw-out of the tissue with no failure in taking out the following tissue.

#### BACKGROUND OF THE INVENTION

As an example of conventional boxes containing facial tissues. Fig.1 shows a carton 1 in the shape of a rectangular parallelpiped, in which a plurality of folded facial tissues 2 are stacked and intertwined with one another so as to be drawn out one after another.

A perforated line 4 for forming an oval outlet for the facial tissues 2 is provided on the top sheet or wall 3 of the carton 1.

A transparent film attached to the under surface of the top sheet 3 has a slot so that a facial tissues 2 half drawn out therethrough stands erect.

In order to open the carton 1, a portion of the perforated line 4 is torn by pushing thereagainst with a finger tip, and then an oval piece defined by perforated line 4 is removed from top sheet 3.

In this kind of tissue box, the transparent film attached to the under surface of the top sheet 3 is inevitable to make the facial tissues 2 half drawn out

2

5

10

15

20

25

30

therethrough and stand erect, so the following difficulties are introduced:

- 1. The process attaching the transparent film to the under surface of the top sheet 3 with adhesives is not easy and requires quite a time and cost.
- 2. Because the slot of the transparent film is getting loose as the tissue is drawn out, the following tissue frequently fails to be followed by the leading tissue and to stand erect out of the box, whereby one has to insert his fingers or hand into the box to take out the following tissue dropped in the box.
- 3. The transparent film should be removed for the purpose of recycling of the empty box after using all tissues.
- 4. An additional labor is required to remove the transparent film attached with adhesives for recycling of the empty tissue box.

Another prior art generally related to the present invention is disclosed in the U.S. Patent 3,868,052 entitled "Moist tissue dispensing".

In the prior art, it provides for more positive and reliable and substantially automatic separation of each sheet being with drawn from a premoistened supply in a container, and this advantage is obtained by special configuration of a normally open aperture in the container through which the leading sheet of the supply is withdrawn.

More specifically this advantage is obtained by providing an aperture in the container wall wherein one or more of the side edges is formed with a free projection or projection extending into the opening of the aperture to engage transverse perforations or scores for impeding free passage of sheets being drawn from the supply within the container whereby each leading sheet may be reliably pulled

3

free of the supply during a normal steady pull on the web.

Though the prior art provides a sheet material dispensing package which helps the successive moistened tissue to be cut into a separate tissue when the successive moistened tissue is drawn out from the package, it does not teach the tissue box, made of a conventional carton, from which the transparent film is removed.

#### SUMMARY OF THE INVENTION

5

10

15

20

25

30

Accordingly, it is an object of the present invention to provide a tissue box without transparent film which obviates the described disadvantages.

In accordance with one aspect of the present invention there is provided a tissue box without transparent film, in which an oval piece defined by a perforated line is removed from the top sheet of the tissue box.

In accordance with another aspect of the present invention there is provided a tissue box without transparent film, which comprising:

an outlet having the form of a straight line or a wave-shaped line being cut along a long axis direction or a short axis direction on a top sheet of the tissue box with a certain length, said outlet being formed on the top sheet of the tissue box:

at least more than two depressed engraving lines being spaced on both left and right side of the outlet respectively with a certain distance about the outlet:

a tearing portion for allowing the outlet to be opened such that a uppermost tissue may be drawn out from the tissue box. said tearing portion being defined by a transverse depressed engraving lines formed transversely at respective ends of the depressed engraving lines and a

4

5

10

15

20

25

30

substantially half circle-shaped perforated line of which respective ends meet respective ends of the transverse depressed engraving lines to form a substantial half circle such that the substantially half circle-shaped perforated line to be torn when pressed by a finger thereagainst:

and an erecting support portion for allowing a following tissue followed by a leading tissue to stand erect, said erecting support portion being defined by the outlet, the depressed engraving line, and the substantially half circle-shaped perforated line of the tearing portion, and having substantially uniform resilience along the outlet through the depressed engraving lines.

In accordance with still another aspect of the present invention there is provided a tissue box without transparent film, wherein said outlet is disposed diagonally on the top sheet of the tissue box.

In accordance with a further aspect of the present invention there is provided a tissue box without transparent film, wherein at least more than two outlets are disposed laterally along the short axis direction on the top sheet of the tissue box.

In accordance with a still further aspect of the present invention there is provided a tissue box without transparent film, wherein said outlet has the form of irregular wave-shaped line.

In accordance with another aspect of the present invention there is provided a tissue box without transparent film, wherein said tearing portion is disposed substantially in the middle of the outlet, said transverse depressed engraving line is cut or slotted, and said tearing portion is defined by a substantially circle-shaped perforation line.

In accordance with still another aspect of the present

invention there is provided a tissue box without transparent film, wherein said top sheet of the tissue box has perforated line along the periphery thereof for allowing the top sheet to be torn after using all tissues whereby the tissue box may be used as a container.

The characteristics of the present invention will be understood more fully from the following detail description and the accompanying drawings showing the preferred embodiments of the invention.

10

30

5

#### BRIEF DESCRIPTION OF DRAWINGS

FIG. 1 is a perspective view of a conventional tissue box:

FIG. 2 is a perspective view of a preferred embodiment of the present invention:

FIG. 3 is a longitudinal section of FIG. 2;

FIG. 4 is a perspective view of FIG 2, illustrating a following tissue halfdrawned:

·FIG. 5 is a cross section of FIG. 4:

FIG. 6 to FIG. 12 are perspective view of other embodiments of the present invention:

FIG. 13 is a perspective view of a tissue box used as a container after using all tissues.

### 25 DETAILED DESCRIPTION OF THE INVENTION

FIG. 2 shows a tissue box according to a preferred embodiment of the present invention.

An oval piece defined by a perforated line is removed from the top sheet 30 of the tissue box 20, instead an outlet 40 having the form of a straight line or a wave-shaped line being cut along a long axis direction or a short axis direction on a top sheet 30 with a certain length is formed

5

10

15

20

25

30

in the middle portion of the top sheet 30.

At least more than two depressed engraving lines 41 are spaced on both left and right side of the outlet 40 respectively with a certain distance about the outlet 40.

A tearing portion 43 is formed respectively at each end of the outlet 40, wherein said tearing portion 43 is defined by a transverse depressed engraving lines 41a formed transversely at respective ends of the depressed engraving lines 41 and a substantially half circle-shaped perforated line 44 of which respective ends meet respective ends of the transverse depressed engraving lines 41a to form a substantial half circle.

Each end 46 of the depressed engraving lines 41, the substantially half circle-shaped perforated line 44, and the transverse depressed engraving lines 41a meets together.

An erecting support portion 42 is defined by the outlet 40, the depressed engraving line 41, and the substantially half circle-shaped perforated line 44 of the tearing portion 43.

Additional depressed engraving lines 41 may be formed in the erecting support portion 42.

A perforated line 45 forming a rectangular opening for another usage, for example as a container, after using all tissues is formed on the top sheet 30 of the tissue box 20.

While the outlet 40, the depressed engraving line 41, and the transverse depressed engraving line 41a forming a rectangle together with the depressed engraving line 41 are arranged diagonally on the top sheet 30 of the tissue box 20 in FIG. 1, they may be arranged parallel to the long or short axis direction on the top sheet 30.

Additionally, while the outlet 40 has the form of wave-shaped line, it may have the form of straight line as

5

10

15

20

25

30

shown in FIG. 6.

Now referring to FIG. 8 showing other embodiment of the present invention, the outlet 40, the depressed engraving line 41, and the transverse depressed engraving line 41a forming a rectangle together with the depressed engraving line 41 are arranged parallel to the short axis direction on the top sheet 30. An erecting support portion 42 having relatively wide width is disposed on the left side of the top sheet 30 of the tissue box 20, and an erecting support portion 42 having relatively narrow width is disposed on the right side of the top sheet 30 of the tissue box 20.

Referring to FIG. 9 showing another embodiment of the present invention, the outlet has the form of irregular wave-shaped line, wherein the transverse depressed engraving line 41a is cut or slotted.

Referring to FIG. 10, tearing portion 43 is disposed substantially in the middle of the outlet 40, wherein the transverse depressed engraving line 41a is cut or slotted, and the tearing portion 43 is defined by a substantially circle-shaped perforation line. For the purpose of easy tearing of the tearing portion 43, a cut-away portion 40a may be provided at one side of the tearing portion 43.

FIG. 11 is similar to FIG. 10 except that the outlet 40, the depressed engraving line 41, and the transverse depressed engraving line 41a forming a rectangle together with the depressed engraving line 41 are arranged parallel to the short axis direction and that the outlet 40 has the form of wave-shaped line.

FIG. 12 is similar to FIG. 11 except that outlet 40 has the form of straight line.

The operations of the shown embodiments according to

WO 97/39964

5

10

15

20

25

30

the present invention are discussed herebelow.

In FIG. 4 a tissue 10 stacked successively in a tissue box 20 is drawn out through the outlet 40 in a similar way to the prior art.

An erecting support portion 42 formed in both side of the outlet 40 has resilience which is exerted by the material property of the tissue box.

The erecting support portion 42 has substantially uniform resilience along the outlet 40 because of the depressed engraving line 41 having the form of straight line. Accordingly, the erecting support portion 42 presses the tissue under being drawn out smoothly with a uniform resilience at both side whereby the following tissue followed by the leading tissue and folded successively with the leading tissue is also pressed by the erecting support portion 42 such that the following tissue is being drawn until the leading tissue is completely separated from the following tissue. In general, about half portions of the respective leading tissue and following tissue are folded together, about half portion of the following tissue stands erect out of the outlet 40 without dropping into the tissue box 20.

In this way the tissue in the tissue box 20 is successively drawn out without dropping, so it is more convenient in that it is not required one insert one's fingers or hand into the box to take out the following tissue dropped in the box, which occurs in the prior tissue box of which outlet is consisted of a transparent film. Furthermore, the outlet 40 may prevent the tissue damages caused by the weak material property thereof in case the tissue box has a outlet having the form of substantially saw tooth-shaped line.

Referring to FIG. 6 showing other embodiment of the

5

10

15

20

25

30

present invention, it shows the similar embodiment to that of FIG. 4 except that the outlet has the form of straight line having substantially the same effects as the form of wave-shaped line.

Now referring to FIG. 7 showing another embodiment of the present invention, the outlet 40 and both erecting support portion 42 are disposed transversely to the long axis direction of the tissue box 20, which has substantially the same effects as the embodiment shown in FIG. 2. Two outlets are disposed laterally on the pop sheet 30 in FIG. 8, where one of them may have a wider opening width than that of the other.

Referring to FIG. 9 showing another embodiment of the present invention, the outlet 40 and both erecting support portion 42 are disposed parallel to the long axis direction of the tissue box 20, wherein the outlet 40 has the form of irregular wave-shaped line, and the transverse depressed engraving line 41a is cut or slotted, which also has substantially the same effects as the embodiment shown in FIG. 4.

In FIG. 10 the outlet 40 and both erecting support portion 42 are disposed parallel to the long axis direction of the tissue box 20, wherein the tearing portion 43 is disposed substantially in the middle of the outlet 40. The transverse depressed engraving line 41a is cut or slotted, and the tearing portion 43 is defined by a substantially circle-shaped perforation line. For the purpose of easy tearing of the tearing portion 43, a cut-away portion 40a is provided at one side of the tearing portion 43. The cut-away portion 40a renders one's fingers to be inserted into the tissue box such that the tearing portion 43 may be easily torn by the fingers.

10

5

10

15

20

25

30

FIG. 11 is similar to FIG. 10 except that the outlet 40 and both erecting support portion 42 are disposed transversely to the long axis direction of the tissue box 20 and that the outlet 40 has the form of wave-shaped line. which has substantially the same effects as the embodiment shown in FIG. 10.

FIG. 12 is similar to FIG. 11 except that the outlet 40 has the form of straight line, which has substantially the same effects as the embodiment shown in FIG. 11.

Finally referring to FIG. 13 showing a tissue box used as a container after using all tissues, wherein a perforated line is formed along the periphery on the top sheet 30 of the tissue box 20. An edge perforated line 31 may be provided at a side adjacent to the perforated line on the top sheet 30 to allow easy tearing of the top sheet 30. Various kinds of things may be reserved in the empty tissue box after removing the top sheet 30.

Therefore, the present invention provides the tissue box without transparent film, wherein the outlet formed on the top sheet of the tissue box may be disposed along the long axis direction of the top sheet or transversely to the long axis direction of the top sheet or may be disposed on any diagonal position of the top sheet, and the erecting support portion 42 having a resilience presses the tissue under being drawn out smoothly with a uniform resilience at both side whereby the tissue box 20 is successively drawn out without being dropped, and the outlet 40 may prevent the tissue damages caused by the weak material property thereof in case the tissue box has a outlet having the form of substantially saw tooth-shaped line.

While particular embodiments of the present invention have been illustrated and described, it would be obvious to

11

5

those skilled in the art that various other changes and modifications can be made without departing from the sprit and scope of the invention. Therefore, it is intended to cover in the appended claims all such changes and modifications that are within the scope of this invention.

5

10

15

20

25

30

#### WHAT IS CLAIMED IS:

1. A tissue box without transparent film comprising:

an outlet having the form of a straight line or a wave-shaped line being cut along a long axis direction or a short axis direction on a top sheet of the tissue box with a certain length, said outlet being formed on the top sheet of the tissue box:

at least more than two depressed engraving lines being spaced on both left and right side of the outlet respectively with a certain distance about the outlet:

a tearing portion for allowing the outlet to be opened such that a uppermost tissue may be drawn out from the tissue box, said tearing portion being defined by a transverse depressed engraving lines formed transversely at respective ends of the depressed engraving lines and a substantially half circle-shaped perforated line of which respective ends meet respective ends of the transverse depressed engraving lines to form a substantial half circle such that the substantially half circle-shaped perforated line to be torn when pressed by a finger thereagainst:

and an erecting support portion for allowing a following tissue followed by a leading tissue to stand erect, said erecting support portion being defined by the outlet, the depressed engraving line, and the substantially half circle-shaped perforated line of the tearing portion, and having substantially uniform resilience along the outlet through the depressed engraving lines.

2. The tissue box without transparent film, as set forth in claim 1, wherein said outlet is disposed diagonally on the top sheet of the tissue box.

13

3. The tissue box without transparent film, as set forth in claim 1, wherein at least more than two outlets are disposed laterally along the short axis direction on the top sheet of the tissue box.

5

- 4. The tissue box without transparent film, as set forth in claim 3, wherein said outlets have different opening width.
- 5. The tissue box without transparent film, as set forth in claim 1, wherein said outlet has the form of irregular wave-shaped line.
- 6. The tissue box without transparent film, as set forth in claim 1, wherein said tearing portion is disposed substantially in the middle of the outlet, said transverse depressed engraving line is cut or slotted, and said tearing portion is defined by a substantially circle-shaped perforation line.

20

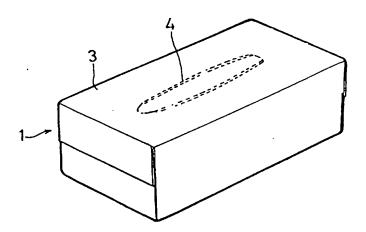
7. The tissue box without transparent film, as set forth in claim 6, wherein a cut-away portion 40a is provided at one side of the tearing portion 43 for easy tearing of the tearing portion 43.

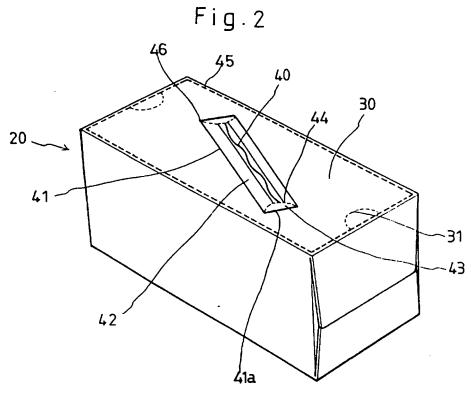
25

30

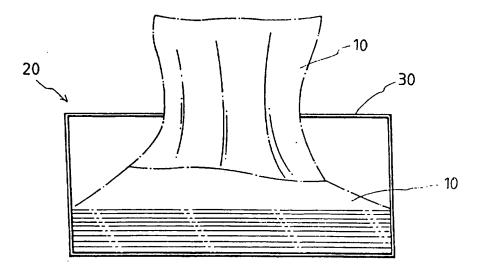
8. The tissue box without transparent film, as set forth in claim 1, wherein said top sheet of the tissue box has perforated line along the periphery thereof for allowing the top sheet to be torn after using all tissues whereby the tissue box may be used as a container.

Fig.1









PCT/KR96/00148 WO 97/39964



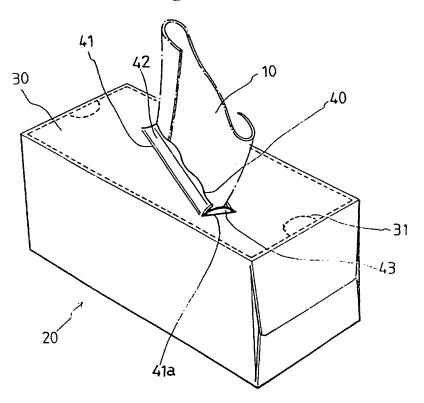


Fig.5

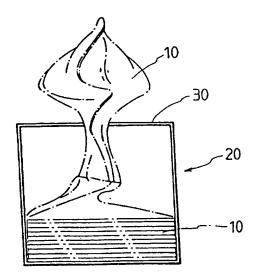


Fig.6

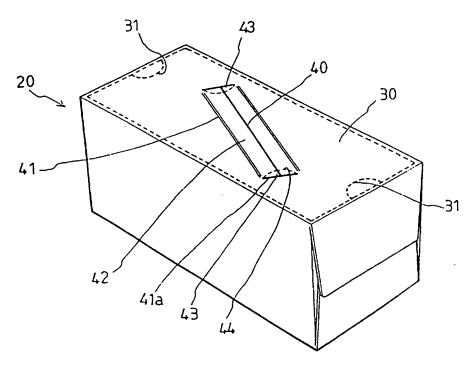
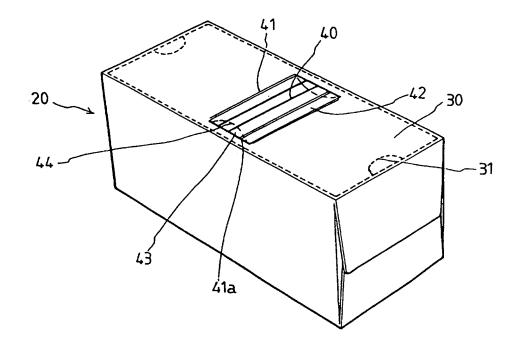
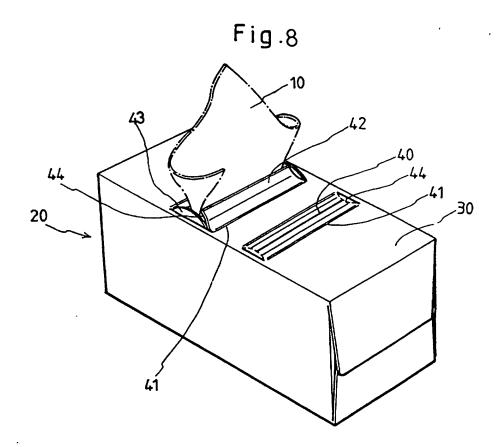
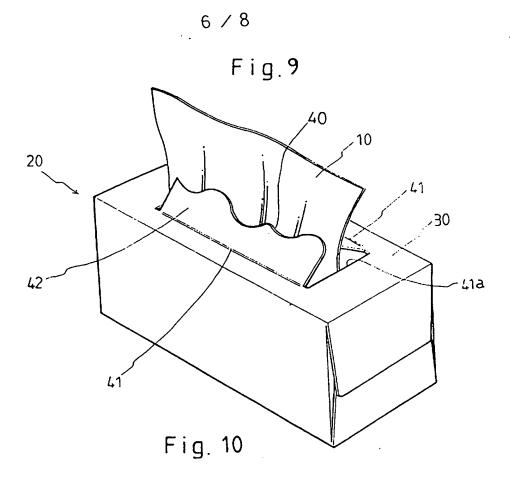


Fig.7









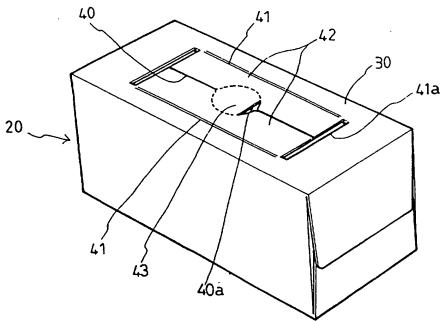


Fig. 11

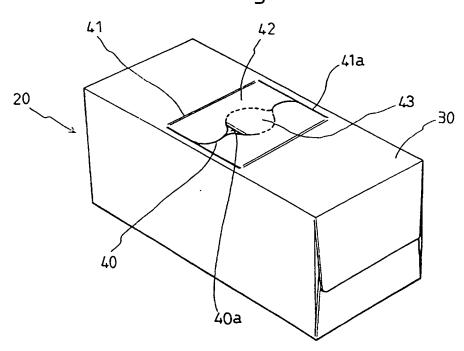


Fig. 12

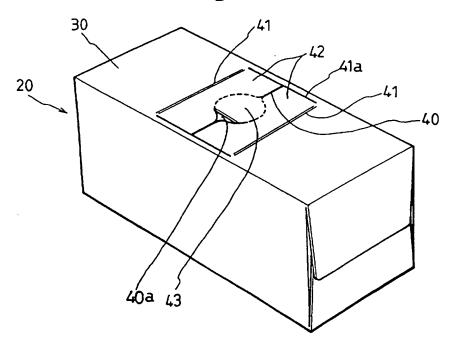
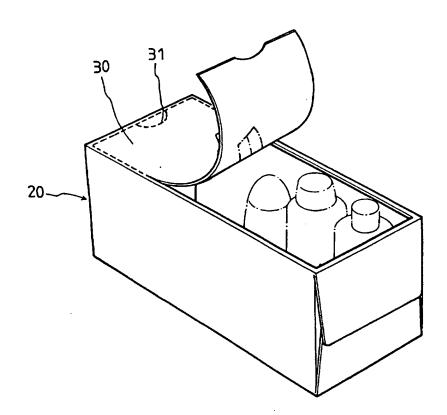


Fig. 13



#### INTERNATIONAL SEARCH REPORT

International application No. PCT/KR 96/00148

	SSIFICATION OF SUBJECT MATTER		-
	B 65 D 83/08		
	o International Patent Classification (IPC) or to both na	tional classification and IPC	
	DS SEARCHED cumentation searched (classification system followed by cl	seelficetion eymhole)	
_	A 47 K 10/00; B 65 D 81/22, 83/08	AMERICANON SYMBOOIS)	
IPC :	A 4/ K 10/00; B 65 D 81/22, 85/00		
Documentati	on searched other than minimum documentation to the exa	ent that such documents are included in the	e fields searched
Electronic da	ita base consulted during the international search (name of	data base and, where practicable, search to	erms used)
C. DOCU	MENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where app	ropriate, of the relevant passages	Relevant to claim No.
A	US 3 986 479 A (BONK) 19 October especially fig. 1,3,4,7.	1-8	
A	GB 793 745 (KIMBERLEY-CLARK COR (23.04.58), especially fig. 1-1	1-8	
Α	US 3 369 698 A (SCHOLZ) 20 Febr especially fig. 4,5.	1-8	
	-		
Furth	er documents are listed in the continuation of Box C.	X See patent family annex.	
	I categories of cited documents:	"T" later document published after the int date and not in conflict with the app	fication pat cited to appearing
to be o	eat defining the general state of the art which is not considered of particular relevance document but published on or after the international filling date	"X" document of particular relevance; the	
"L" docum	idered to involve an inventive		
	to establish the publication date of another citation or other I reason (as specified)	step when the document is taken alo "Y" document of particular relevance; it	ne claimed invention cannot be
"O" docum	seas referring to an oral disclosure, use, exhibition or other	considered to involve an inventive combined with one or more other suc	b documents, such combination
"P" docum	sent published prior to the international filing date but later than tority date claimed	being obvious to a person skilled is "&" document member of the same pate	
Date of the	actual completion of the international search	Date of mailing of the international se	earch report
13 D	ecember 1996 (13.12.96)	20 December 1996 (2	0.02.96)
	mailing address of the ISA/AT	Authorized officer	
Koh	STRIAN PATENT OFFICE	Fietz	
A-1 Facsimile	.014 Vienna No. 1/53424/535	Telephone No. 1/53424/358	

Form PCT/ISA/210 (second sheet) (July 1992)

#### INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No. PCT/KR 96/00148

In Recherchen angeführtes Pater Patent docume in search re Document de bre dans le rapport d	ntdokument V nt cited port vet cité	Datum der eröffentlichung Publication date Date de oublication	Paten Pate aen Membre	edler) der itfamilie ent family ber(s) itsl de la e de brevets	Datus der Verbffentlichung Publication date Date de publication
US A 398	36479	19-10-76	AAABRCDDDEEEEEEEEEEEEEE 11JJNNNESTUU ABAAAACAUYYYYYAABBBAAGAAAAAAAAAAAAAAAAAAAAAAAAA	74447692043448358885556795774444662 7176802447554483588856795774444662 777943007585855252567424467557409 444203444258347272118933042615 43284404432826735467572118933042615 84771225 877771445	78655855777775588008555815685 1777777787777777787787777777777787777777
GB A 7	7374 <b>5</b>	, ., ., .,	keine	- none - r	ien
US A 336	 576 <b>7</b> 8	20-02-68	keine	- none - r	ien